



# Insights of a Number of Ongoing Research on Elites in Latin America

Topics, Methods and Possibilities for Comparison

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# **Open Data on Chilean Cabinets**

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# Data on Chilean Ministers (1990-2014)

## Codebook v 3.3.6

Data Set on Chilean Ministers (1990-2014)

<https://doi.org/10.5281/zendos/5744536>

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This data set contains information in  Comma-Separated Values (CSV) format with Unicode encoding (UTF-8) (**N = 232**).

The data collection was carried out based on official sources such as archives of Congress and ministries, the National Library, and press archives.

### Further Details

González-Bustamante and  
Olivares (2022a)

# Data on Chilean Undersecretaries (1990-2022)

This data set contains information in  Comma-Separated Values (CSV) format with Unicode encoding (UTF-8) (**N = 425**).

The data collection was carried out based on official sources such as archives of Congress and ministries, the National Library, and press archives.

## Further Details

González-Bustamante and Olivares (2022b)

## Codebook v 2.1.3

Data Set on Chilean Undersecretaries (1990-2022)

<https://doi.org/10.5281/zenodo.5715384>

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# Preservation and Data Sharing

Both data sets are stored with version control on  GitHub repositories with controlled access with  Two-Factor Authentication (2FA) with cryptographic authentication FIDO2 and U2F.

Repositories are backed up on  Hierarchical File Server (HFS) for recovery in case of incidents. Backup is located on the  University of Oxford hub connected to Code42 Cloud Backup encrypted with 256-bit AES. Zenodo provides DOI.

The content is licensed under a  Creative Commons Attribution 4.0 International license (**CC BY 4.0**), and the underlying code is licensed under an MIT license. Codebooks were compiled with Xe<sup>L</sup>A<sub>T</sub>E<sub>X</sub> using a code under an LPPL v1.3c license.

# Example of Code to Import Data

```
1 ## GitHub Repository
2 github_1 <- "https://raw.githubusercontent.com/"
3 github_2 <- "bgonzalezbustamante/chilean-ministers/main/data/tidy/"
4
5 ## Chilean Ministers Data
6 chilean_ministers <- read.csv(paste(github_1, github_2, "Chilean_
    cabinets_1990_2014.csv", sep = ""),
7                               header = T, sep = ",", encoding = "UTF-8")
```

## Further Details

Code chunk colours based on [Vibrant Ink Flavoured v1.2.1](#) template. Our codebooks and repositories present direct import codes for R and Python.

## **Data Collection on Boards of Directors**

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# Data Collection on Boards of Directors (2001-2022)

We used data from the **Financial Market Commission**, which supervised more than 70% of financial assets in Chile, to identify board members and CEOs of a number of companies.

We have elaborated a list of **board members** and **CEOs** for **463 and 451 companies**, respectively.

Currently, we are collecting data from the **board members** list. Our progress is **21%**, which implies **4,280 individual observations**.

## Work in Progress

This work in progress, coauthored with C Cisternas, is at an early stage. Our thanks to our research assistants V Liberona and M Carrillo.

# Stochastic Actor-Oriented Models

Our empirical strategy will be similar to [González-Bustamante and Cisternas \(2022\)](#) based on SAO models developed by [Snijders \(2001; see also Snijders et al., 2010\)](#).

This approach is part of the family of models for **dynamic networks that show changes in the networks**, between two discrete points of time, by examining the evolution of ties between the actors ([Kalish, 2019; Pink et al., 2020](#)).

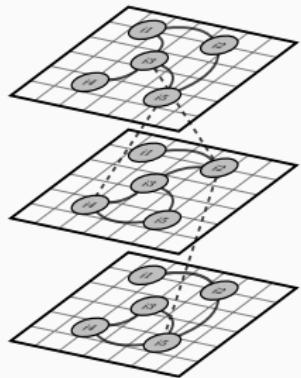
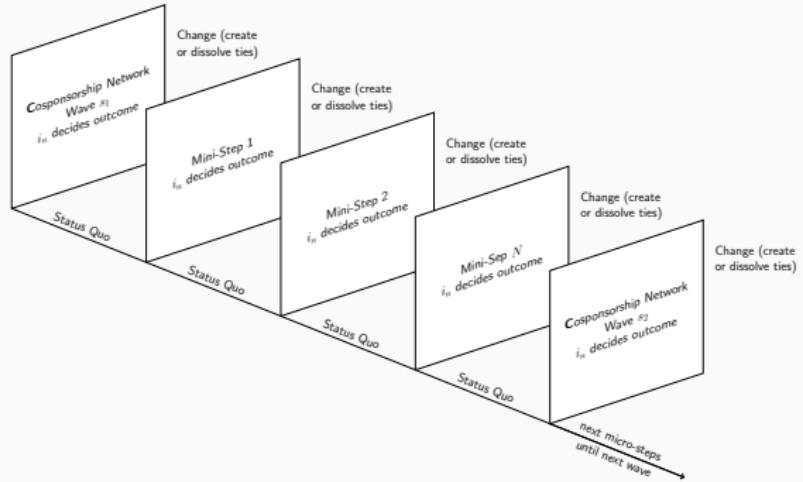
To implement the SAO analysis, we hope to employ Simulation Investigation for Empirical Network Analysis (**SIENA**; see [Snijders, 2001; Snijders and Pickup, 2017](#)).

# Stochastic Actor-Oriented Models

The SAO analysis implies evaluating the evolution and formation of ties. Following Pink et al. (2020), between  $s_j$  and  $s_{j+1}$  there are three potential outcomes regarding the existing relation: (i) the creation of new ties; (ii) maintenance of the status quo; and (iii) dissolution of existing ties.

This decision occurs among what this approach calls **mini-steps calculated with simulations**, which consider potential decisions that an actor might make based on previous outcomes and the potential status of the social network that could be induced by possible actions by the individuals (Snijders, 2001; Snijders et al., 2010, see also Pink et al., 2020).

# Example of Choice Modelling Networks Scheme



Source: [González-Bustamante and Cisternas \(2022\)](#).

# **NLP for Data Collection on Resignation Calls**

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# NLP for Data Collection

This is a work in progress that presents a new data set created using **Natural Language Processing (NLP)** and **machine learning techniques**.

The data set contains detailed information on the cabinet turnover in 12 Latin American democracies from the time of redemocratisation between the 1970s and 1980s, depending on the case, up until the end of the latest presidential terms.

We used a number of sources of public information and press reports that were digitised with data mining algorithms. Using machine learning models, we were able to identify **ministerial resignation calls** (empirically efficient indicators of random shocks; see [Berlinski et al., 2010](#)).

This data is **completely novel for Latin American presidentialisms**.

## Further Details

[González-Bustamante \(2022\)](#)

# Detail of the Batches of the LAWR Archives

Batch	Archives	Years	Format	Volume
Batch-01	LAWR-1975 to LAWR-1979 Including 1997	5	CSV UTF-8	9.56 MB
Batch-02	LAWR-1980 to LAWR-1998 Excluding 1997 Including the first half of 2003	18.5	PNG images	38.5 GB
Batch-03	LAWR-1999 to LAWR-2021 Excluding the first half of 2003	22.5	PDF files	341 MB

Note: Revision of 12 Latin American countries thanks to St Hilda's College Muriel Wise Fund and subscriptions of the Bodleian Libraries at the University of Oxford.

# Binarisation Algorithms

Note: Images correspond to a LAWR page before binarisation and after the application of techniques of Sauvola and Pietikäinen (2000) and Su et al. (2010).

# Tesseract OCR Algorithm



## **How Domingo Cavallo rose to become Menem's virtual prime minister**

Argentina are still hotly debating what lay behind the sudden announcement of secretary minister Antonio Eman González and his replacement by Domingo Casella (MTR-81-18). The simple explanation is that, in the wake of the economic crisis, the government had decided to postpone its rate rise, and much has been published about all sorts of political calculations.

One thing seems certain: González had several times urged his resignation of Márquez — and, according to sources with access to him, that knew President Carlos Menem well, he was duly assured a position as secretary minister. What would hold him back from accepting? It is likely that he had always intended to appoint Casella as his economic adviser, to assess the period of transition and to decide what he expected the new government would take at a future stage. In this scenario, if González did not feel he could do so, he was free to choose his own timing.

It was at this point, the scenario goes, that Cavalia *bethought* Menem's resolve to hang on. Since Cavalia has emerged as a political force in Argentina, but as a virtual private minister — able to organise the shanty-town mayoral posts and even the Senate election — he has become a political necessity. Come what may, he had replaced several Senate *ediles* — Eduardo Gómez, the President's brother, and Carlos Moreno's most trusted advisor.

PETRO: Widespread of Measles epidemic, CT	VERACRUZ: Venezuela
ECUADOR: "Today" Measles Impact on Health	BOLIVIA: for Little PIRAS CPI: Amazon
COLUMBIA: Progress of Malaria, treated with CHLORO-	PERU: CQI with

**Friends for  
All, (11-18)**  
**near to extend  
distance, (8)**  
**life becomes final;  
changes,**



## **How Domingo Cavallo rose to become Menem's virtual prime minister**

Hoppeines are still hotly debating what lay behind the sudden resignation of economy minister Antonio Ercole Manzini and his replacement, Mario Monti, as prime minister (see p. 38). The simple explanation—the rapid, uncontrollable upsurge of the voter rate—is dismissed as sufficient by most political analysts, who publish almost at once of political plots.

One thing seems certain, however: the crisis has brought three issues into the foreground: the reintegration of Meroni—and, according to sources with knowledge of it, that he will be reinstated; Comandini's downfall; and the new government. Indeed, a widely awaited version is that Meroni will already have been reinstated by the time the new government is sworn in, possibly as early as the end of May. In this scenario, if Comandini will not be chosen to his long-time

Another strand of interpretation is that the change took place as Menem suddenly lost his confidence, shaken by a series of scandals, and was compelled to withdraw towards his decision to pardon the military leaders of the dirty war. The third factor was the widespread conviction in the higher reaches of the government and the military that, despite the general support for the coup, there was no genuine questioning support from the Bush administration.

PETRO: Massive spread of HIV/AIDS epidemic, CT	VENEZUELA: Tobacco bu-
EURODIF: "Paradise" Requires Impact on STRUCT)	BOLIVIA: Re LIBRA PARAGUAY: On agenda
COLUMBIA: Prospects of MLN armed, with CDO/CD	PERU: Quell oil



### **How Domingo Cavallo rose to become Menem's virtual prime minister**

Argentina are still highly debating what lay behind the sudden resignation of economy minister Alfonso Ermessundio and his replacement by another man, Luis Caputo (see p. 38). The simple explanation — the red, underlined square of the dollar rate — is disastrous as sufficient to explain the whole affair. It has not published about all sorts of political plots.

One thing seems certain: that Gómez was not the author of the plot to force his resignation of Menem — *indeed*, according to sources with interests in that, he was the author of Menem's resignation. In fact, Menem had already resigned. A widely accepted version is that Menem had already intended to resign, but that Gómez forced him to do so, to provide cover the period of "reeducation" which he expected would follow: a first phase of "socialization" in which he would be educated to the new role of president, and a second to choose his own timing.

Another strand of interpretation is that the change took place as Mr. Bushmen suddenly lost his confidence, shaken by a series of setbacks, particularly the impact of adverse popular reaction towards his decision to meet the military leaders of the 'dirty war' in Argentina. This was followed by a further deterioration in his popularity coinciding with the high-profile reaches of the government, and the realization that despite his general popularity, he had lost the questioning support from the Bush constituency.

It is at this point when I spent time with Mr. Bushmen's political agent as Vice-Presidential candidate, Mr. Dububac, who was seen as playing in a key role in the campaign. Mr. Dububac's departure from the presidency for weeks speculation has been about which of the two remaining candidates would be more positive would find most favour;

T. G. B. (Continued)

- PETROZ:** West African spread of monkeypox epidemic. (D)
- EDUADOR:** "Today" measures impact on HIV/AIDS.
- COLOMBIA:** Prospects of trial agreed, with CHED.
- NEVENEZUELA:** Force Sudog.
- BOLIVIA:** A deal for Lithium.
- PARAGUAY:** An agreement.
- PERU:** "Gold affects"

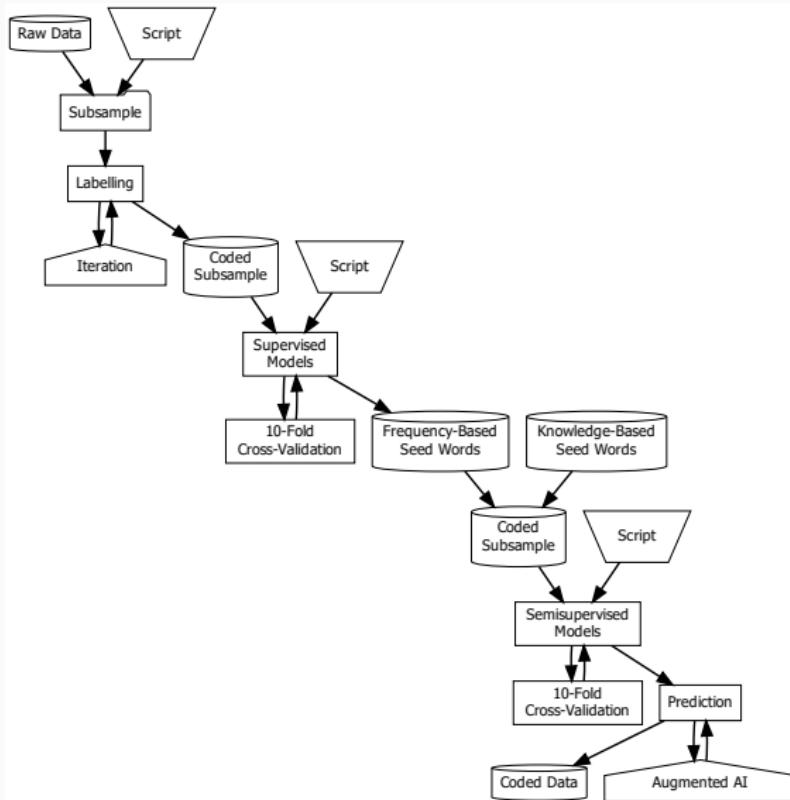
## Year and Week

## Headline

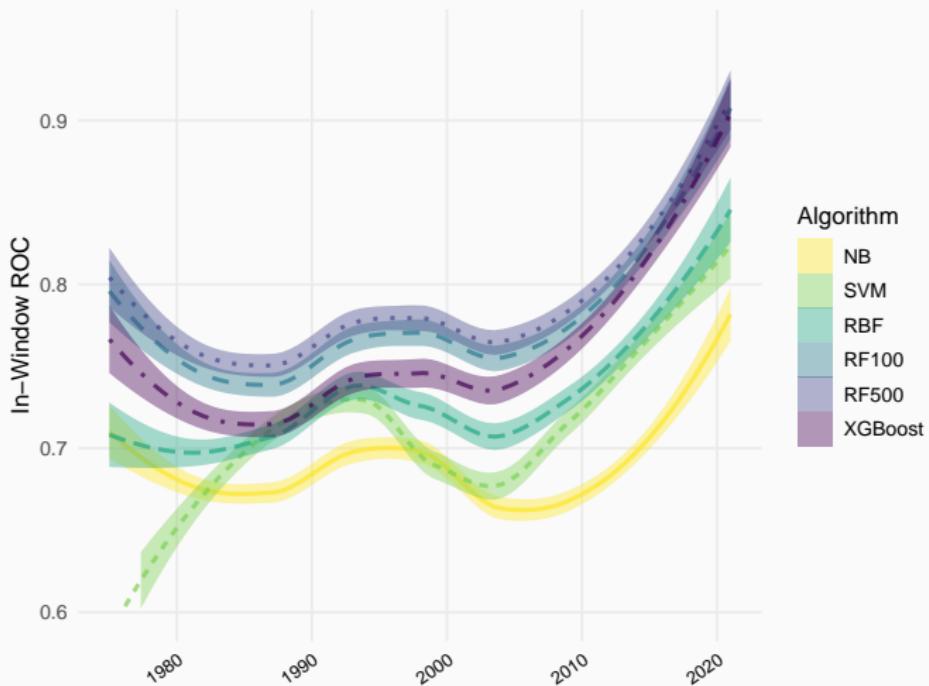
## Paragraph

## Tab-Stop Lines — Column Layout — Segmented Blocks

# Machine Learning Algorithms Training Pipeline

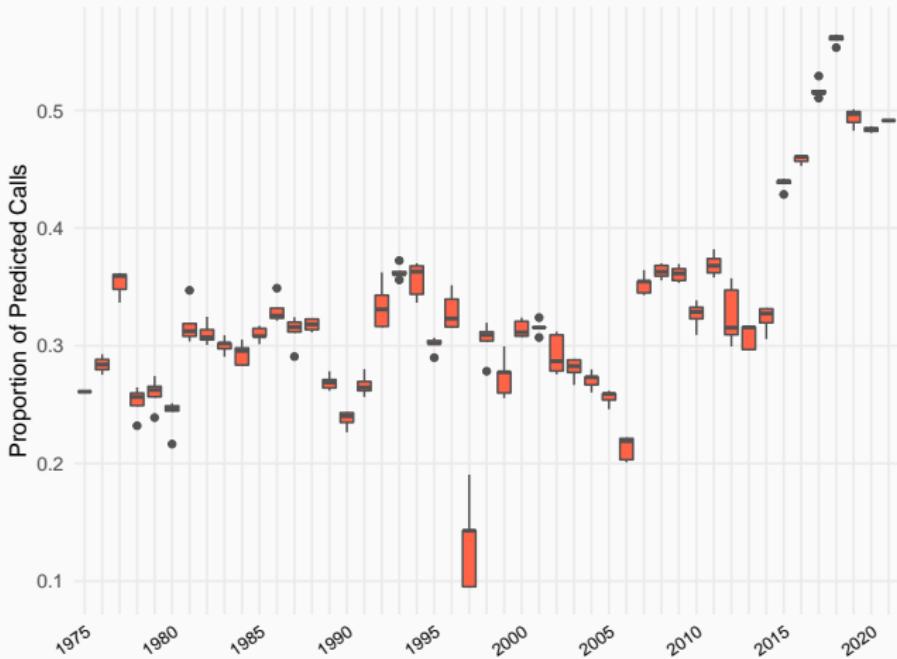


# Performance of the Semisupervised Models (1975-2021)



Note: Indicators 10-fold cross-validated in a five-year rolling window.

# Predicted Ministerial Resignation Calls (1975-2021)



Note: Predictions proportion over the mentions carried out with the ensemble semisupervised Random Forest (500 trees) in the five-year rolling window.

# Preservation and Data Sharing

The data set will be deposited in the digital repository  **Oxford Research Archive for Data** (ORA-Data) in  CSV UTF-8 format with its codebook and standardised metadata. The data set will remain **under embargo** until October 2023 (to be confirmed).

It will then be available for reuse under an  **open-access licence** that allows sharing and adapting the material without additional restrictions as long as appropriate acknowledgement is given.

Further technical details on storage, formats and replicability are available in the Data Management Plan (DMP ID 85349).

## References I

- Berlinski, S., Dewan, T., and Dowding, K. (2010). The Impact of Individual and Collective Performance on Ministerial Tenure. *The Journal of Politics*, 72(2):559–571.
- González-Bustamante, B. (2022). Resignation Calls and Dismissals of Ministers in Latin America: Notes on Data Gathering using Machine Learning. In *Society for Latin American Studies Annual Conference*, Bath.
- González-Bustamante, B. and Cisternas, C. (2022). Seniority and Cosponsorship in the Chilean Lower House 2006-2018. In *Society for Latin American Studies Annual Conference*, Bath.
- González-Bustamante, B. and Olivares, A. (2022a). Data Set on Chilean Ministers (1990-2014) (Version 3.3.6 – Dry Bonus). DOI: 10.5281/zenodo.5744536.
- González-Bustamante, B. and Olivares, A. (2022b). Data Set on Chilean Undersecretaries (1990-2022) (Version 2.1.3 – Shiny Snow). DOI: 10.5281/zenodo.5715384.
- Kalish, Y. (2019). Stochastic Actor-Oriented Models for the Co-Evolution of Networks and Behavior: An Introduction and Tutorial. *Organizational Research Methods*, 23(3):511–534.

## References II

- Pink, S., Kretschmer, D., and Leszczensky, L. (2020). Choice modelling in social networks using stochastic actor-oriented models. *Journal of Choice Modelling*, 34:100202.
- Sauvola, J. and Pietikäinen, M. (2000). Adaptive document image binarization. *Pattern Recognition*, 33(2):225–236.
- Snijders, T. A. B. (2001). The Statistical Evaluation of Social Network Dynamics. *Sociological Methodology*, 31(1):361–395.
- Snijders, T. A. B. and Pickup, M. (2017). Stochastic Actor Oriented Models for Network Dynamics. In Victor, J. N., Montgomery, A. H., and Lubell, M., editors, *The Oxford Handbook of Political Networks*. Oxford University Press, New York.
- Snijders, T. A. B., van de Bunt, G. G., and Steglich, C. E. G. (2010). Introduction to stochastic actor-based models for network dynamics. *Social Networks*, 32(1):44–60.
- Su, B., Lu, S., and Tan, C. L. (2010). Binarization of historical document images using the local maximum and minimum. In *DAS '10: Proceedings of the 9th IAPR International Workshop on Document Analysis Systems*, Boston. ACM Press.

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Thank you very much!

